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LUMINARY Memo #25

To: Distribution
From: C. Schulenberg
Date: 30 April 1968
Subject: LUMINARY Revisions 9, 10, and 11

Revision 9 was made to fix problems in Revision 8 and was a good assembly. Tapes of Revision 9 were made for the LMS and the Hybrid lab. Revision 10 was the major assembly and was bad due to the fact that the Assembler did not incorporate Subroutine SKIPPER into it. Revision 11 had no changes over Revision 10 and was made in order to fix the above problem. Revision 11 was also bad.

Major Changes Incorporated into Revision 9

- 1) Corrections were made to P57 coding.
- 2) The altitude-rate compensation factor computation (for R10) in SERVICER was corrected.
- 3) A programming error was fixed in the SERVICER copycycle.
- 4) QUIKFAZ5 was modified to use a DXCH L instead of the illegal instruction DXCH Q.

Major Changes Incorporated into Revision 10

- 1) A scaling problem was corrected in the Landing Guidance Equations.
- 2) NVWORD1 was temporarily equated to FLGWRD12 so that V97 and V99 would work.
- 3) Noun 99 was added to the NOUN TABLES.
- 4) Minor coding additions were made to R59.
- 5) The flagbit descriptions in ERASABLE ASSIGNMENTS were updated.
- 6) LOOPMX, the constant with which LOOPCT is compared each P32 loop, was increased from 15 to 16.
- 7) Minor changes were made to P70, P71, and P12.

- 8) The check on STEERSW was deleted from FINDCDUW since the program is never even called if STEERSW = 0.
- 9) The Interpreter was modified so that it is now possible to have RTB access to subroutines that return via a TC Q. The RTB leaves Q pointing to DANZIG prior to dispatching.
- 10) In order to make use of the flexibility afforded by the above change, QUICTRIG was rewritten in the form of a TC-Q routine. This allows it to be called from an interrupt as well as from an interpretive job.
- 11) A reject alarm was added to AOTMARK for Surface Marking.
- 12) Corrections were made to the P52 option 4 coding (Landing Site Orientation).

Statistical Summary of Revisions 9, 10, and 11

Number of Changes

Total modification forms	28
DAP modification forms	0
Fixed memory change	+70

Types of Changes

Mandatory	18
Storage Saving	0
Speed Saving	0
Development	3
Non-Program	7